ELECTRONIC TUBE REFERENCE

3MP2

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Three-inch cathode-ray tube for oscilloscope and instrument display service, using electrostatic focusing and electrostatic deflection. Its P2 screen designation identifies the phosphor variant within this compact oscillographic family.

General characteristics

BASE DESIGNATION	—	**BASE PINS**	—
NOMINAL HEATER	6.3 V / 600 mA	**PARALLEL HEATER**	— / —
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Cathode Ray

No fixed ratings recorded.

CRT section; maximum anode voltage 2750 V and capacitances retained in parameter table.

from JEDEC release #3022, Nov. 7, 1960 [3MP2 GENERAL DATA OSCILLOSCOPE TUBE Focusing Method ... cetneeeserse e Electrostatic DEFLECTION SENS!TIVITY—MODERATE Deflecting Method .. . Electrostatic LENGTH—SHORT

SOURCE OPERATING CONDITIONS

1960 Waterman Products

SOURCE PDF

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1960 WATERMAN PRODUCTS

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
RAYONIC®	**3**	RAYONIC® 3MP1 CATHODE RAY TUBE
Heater VOltage ..vrcmeecrnmmmnnssimssonion e	**3 mm**	Heater VOltage ..vrcmeecrnmmmnnssimssonion e 003 VOIS
Heater Current ... s [1]	**600 mA**	Heater Current ... s 0.6 +=10% Amperes
Heater Current ... s [2]	**10 A**	Heater Current ... s 0.6 +=10% Amperes
Cathode to all other electrodes ..o	**7.5**	Cathode to all other electrodes ..o 7.5 upf
Grid # [1]	**1 pF**	Grid #1 to all other electrodes ... 8.0 ppf
Grid # [2]	**8 pF**	Grid #1 to all other electrodes ... 8.0 ppf
Minimum Useful Screen DIameter	**2 in**	Minimum Useful Screen DIameter ... 2% Inches
Positive voltage on D1 deflects beam approximately toward pin #	**4**	Positive voltage on D1 deflects beam approximately toward pin #4
Positive voltage on D3 deflects beam approximately toward pin #	**1**	Positive voltage on D3 deflects beam approximately toward pin #1
Anode Voltage (A2)	**2190**	Anode Voltage (A2) .. 2190 VOIEs DC
Anode (A2) Input ..o	**6**	Anode (A2) Input ..o . 6 Watts
Anode = [1]	**1 V**	Anode =1 (Focusing Electrode) Voltage ... .. 1000 Volts
Anode = [2]	**1000 V**	Anode =1 (Focusing Electrode) Voltage ... .. 1000 Volts
Grid	**41**	Grid 41 (G1) Voltage
Heater positive with respect to cathode ... T	**125 V**	Heater positive with respect to cathode ... T 125 Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Peak Voltage between Anode # [1]	**2 V**	Peak Voltage between Anode #2 and any deflecting Plate i 500 Volts
Peak Voltage between Anode # [2]	**500 V**	Peak Voltage between Anode #2 and any deflecting Plate i 500 Volts
Focusing Electrode (A1) Current for any operating condition [1]	**-15 A**	Focusing Electrode (A1) Current for any operating condition ... —15t0 +10 pAmps
Focusing Electrode (A1) Current for any operating condition [2]	**10 A**	Focusing Electrode (A1) Current for any operating condition ... —15t0 +10 pAmps
Spot Position (Undeflected) (Note [1]	**1 mm**	Spot Position (Undeflected) (Note 1) 15 Max. mm
Spot Position (Undeflected) (Note [2]	**15 mm**	Spot Position (Undeflected) (Note 1) 15 Max. mm
Al Voltage [1]	**12**	Al Voltage 12% to 30% of A2 Voltage
Al Voltage [2]	**30**	Al Voltage 12% to 30% of A2 Voltage
G1 Voltage [1]	**2.7**	G1 Voltage 2.7% to 6.3% of A2 Voltage (Note 2)
G1 Voltage [2]	**6.3**	G1 Voltage 2.7% to 6.3% of A2 Voltage (Note 2)
G1 Voltage [3]	**2**	G1 Voltage 2.7% to 6.3% of A2 Voltage (Note 2)
Anode Voltage (A2) [1]	**500 V**	Anode Voltage (A2) 500 1000 2000 Volts
Anode Voltage (A2) [2]	**1000 V**	Anode Voltage (A2) 500 1000 2000 Volts
Anode Voltage (A2) [3]	**2000 V**	Anode Voltage (A2) 500 1000 2000 Volts
Focusing Electrode Voltage (A1) [1]	**60 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Focusing Electrode Voltage (A1) [2]	**150 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Focusing Electrode Voltage (A1) [3]	**120 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Focusing Electrode Voltage (A1) [4]	**300 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Focusing Electrode Voltage (A1) [5]	**240 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Focusing Electrode Voltage (A1) [6]	**600 V**	Focusing Electrode Voltage (A1) 60 to 150 120 to 300 240 to 600 | Volts
Grid # [1]	**1 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [2]	**2 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid # [3]	**13.5 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [4]	**-31.5 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [5]	**-27 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [6]	**-63 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [7]	**-54 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Grid # [8]	**-126 V**	Grid #1 Voltage (Note 2) ~13.5t0 -31.5 [—27to —63 | —54to —126| Volts
Deflection Factor D1-D2 [1]	**57.51072 V**	Deflection Factor D1-D2 57.51072.5 115to0 145 23010290 | Volts DC/Inch
Deflection Factor D1-D2 [2]	**5 V**	Deflection Factor D1-D2 57.51072.5 115to0 145 23010290 | Volts DC/Inch
Deflection Factor D1-D2 [3]	**115 V**	Deflection Factor D1-D2 57.51072.5 115to0 145 23010290 | Volts DC/Inch
Deflection Factor D1-D2 [4]	**145 V**	Deflection Factor D1-D2 57.51072.5 115to0 145 23010290 | Volts DC/Inch
Deflection Factor D1-D2 [5]	**23010290 V**	Deflection Factor D1-D2 57.51072.5 115to0 145 23010290 | Volts DC/Inch
Deflection Factor D3-D4 [1]	**55 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Deflection Factor D3-D4 [2]	**70 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Deflection Factor D3-D4 [3]	**0 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Deflection Factor D3-D4 [4]	**140 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Deflection Factor D3-D4 [5]	**220 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Deflection Factor D3-D4 [6]	**280 V**	Deflection Factor D3-D4 55t0 70 i10to 140 220to 280 | Volts DC/Inch
Grid # [1]	**1**	Grid #1 Circuit Resistance . 1.5 Megohms
Grid # [2]	**1.5**	Grid #1 Circuit Resistance . 1.5 Megohms
Resistance in any Deflecting Electrode Circuit (NOte [1]	**3 mm**	Resistance in any Deflecting Electrode Circuit (NOte 3) wcrmcrssmmessmns 1.0 Megohms

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Resistance in any Deflecting Electrode Circuit (NOte [2]	**1 mm**	Resistance in any Deflecting Electrode Circuit (NOte 3) wcrmcrssmmessmns 1.0 Megohms
Published value	**1**	1. With deflecting electrodes connected to Anode (A2).
Published value	**2**	2. For visual extinction of undeflected focused spot.
Published value	**3**	3. The resistance in each deflecting electrode circuit should be approximately equal.
fiuorescent, yellow phosphorescent, long persistence phosphor. Use of	**3**	fiuorescent, yellow phosphorescent, long persistence phosphor. Use of 3MP7 at anode voltages below